



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/074,219	02/12/2002	Steven J. West	04518/00019	6185
22910	7590	10/14/2005	EXAMINER	
BANNER & WITCOFF, LTD. 28 STATE STREET 28th FLOOR BOSTON, MA 02109-9601			OLSEN, KAJ K	
		ART UNIT	PAPER NUMBER	
		1753		

DATE MAILED: 10/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/074,219	WEST ET AL.
	Examiner Kaj K. Olsen	Art Unit 1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 15 August 2005.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 2-9, 14 and 15 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1 and 10-13 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Claims 2-9, 14 and 15 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1 and 10-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. In claim 1, it is unclear what the metes and bounds of “minimizes moisture loss or pickup from the surroundings yet under the influence of a partial vacuum created inside the compartment, admits sufficient air” would be. This is a relative statement and one possessing ordinary skill in the art would not be able to discern whether a prior art vent structure or any subsequent vent structure would meet or infringe on the defined vent structure. In particular, applicant’s use of the term “minimizes” cannot be referring to a true minimization because a true minimized moisture loss or pickup would be to seal the vent completely so that no moisture is lost or picked up. However, because such a completely sealed vent would not meet the second part of the limitation (i.e. allowing “sufficient air”), the minimization referred to here is something other than a complete minimization (e.g. the vent tube of fig. 1 would allow for some moisture loss or pickup in comparison with a completely sealed vent). Applicant appears to

admit as much with claim 10 where applicant states that vent structure “serves to *reduce* the rate at which moisture can diffuse into or out of the electrolyte compartment” (emphasis added).

Claim 12 similarly states that the goal of the vent is to merely “*retard* diffusion of moisture into or out of the electrolyte compartment” (emphasis added). Hence the “minimizes” of claim 1 is a relative condition that is balanced against the admitting of “sufficient air”, which is another relative condition. Absent clear definitions of these relative terms, how one possessing ordinary skill in the art construes “minimizes” and “sufficient” depends entirely on what they consider to be a suitable minimized moisture loss or pickup and what they consider to be an allowance for sufficient air flow. Hence, the metes and bounds of claim 1 are unclear.

5. In claim 1, there is no antecedent support for “the compartment”, “the liquid junction”, “the electrolyte solution” and “the reference electrode”. Applicant never claimed any of these components. All claim 1 positively recites is the presence of a “reference electrode compartment vent” (note: not the actual compartment itself, but the vent for that compartment). Hence these various terms lack antecedent basis.

6. In claim 10, applicant appears to further define claim 1’s “minimizes” to be to “reduce the rate at which moisture can diffuse into or out of”. To this examiner, the language of claim 10 appears to be broader in scope than the original language of claim 1.

7. In claim 10, the use of the relative language such as “reduce the rate at which moisture can diffuse” and “permit sufficient ingress” are indefinite for the same reasons as set forth for the relative language of claim 1.

8. In claim 10, there is no antecedent support for “the opening”, “the reference electrolyte compartment”, “the electrolyte compartment” and “the compartment”.

9. In claim 12, applicant appears to further define claim 1's "minimizes" to be to "retard diffusion of moisture into or out of". To this examiner, the language of claim 12 appears to be broader in scope than the original language of claim 1.

10. In claim 12, the use of the relative language such as "retard the diffusion of moisture" and "permit sufficient ingress" are indefinite for the same reasons as set forth for the relative language of claim 1.

11. In claim 12, there is no antecedent support for "the opening", "the reference electrolyte compartment", "the electrolyte compartment", "the compartment", and "the elastomeric closure material".

***Claim Rejections - 35 USC § 102***

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Pedicini (USP 5,362,577). Pedicini was previously cited and relied on by the previous examiner as a secondary teaching. It is being utilized by this examiner as a primary teaching.

14. Pedicini discloses an electrode containing device comprising a vent 16 that lessens moisture loss or pickup, but would permit flow of air with an appropriately placed vacuum. See fig. 2 and the abstract. With respect to the device being a combination glass pH electrode, applicant has not explicitly claimed any structure other than the vent itself. Hence in the absence

of the positively claiming of *any* of the structure of that combination glass pH electrode that reads free of Pedicini, a combination glass pH electrode is only the intended use of the positively recited “vent”. With respect to all the limitations about the liquid junction, the compartment and the reference electrode, all claim 1 positively recites is the presence of a vent. The discussion of the liquid junction, compartment and reference electrode are merely functional language to define the properties of the vent. Because Pedicini teaches such a vent that would clearly meet this functional language, it would meet claim 1. With respect to needing no calibration for up to two years and stabilizing the (unclaimed) reference electrode, the examiner does not believe this further defines the vent itself, which is the only recited element of the claim.

15. Claims 1 and 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Vaillancourt (USP 5,575,769). Vaillancourt was previously cited and relied on by the previous examiner as a secondary teaching. It is being utilized by this examiner as a primary teaching.
16. Vaillancourt discloses that slit septa are known in the art. See col. 1, ll. 33-37. This slit septum would read on the applicant’s defined “reference electrolyte compartment vent”, because applicant evidences that a slit septum would meet this vent limitation and the various functional definitions of that vent. See claims 10 and 12 and p. 14, l. 15 through p. 15, l. 2. With respect to this slit septum being a combination glass pH electrode, the only positively recited element of the claims is the vent itself. Hence in the absence of the positively claiming of *any* of the structure of that combination glass pH electrode that reads free of the slit septum of Vaillancourt, a combination glass pH electrode is only the intended use of the positively recited “vent”. The various references to liquid junction, compartment or reference electrode is only done to further define the properties of the vent itself and these various elements are not claimed by the

applicant. With respect to needing no calibration for up to two years and stabilizing the (unclaimed) reference electrode, the examiner does not believe this further defines the vent itself, which is the only recited element of the claim.

17. The slit septum of Vaillancourt would also read on the “closure that is perforated” of claim 10 and the “closure with a slit” of claim 12 giving the claim language its broadest reasonable interpretation.

18. With respect to claim 11, applicant has not explicitly claimed the tube itself, but rather that the septum would “permit insertion of a tube” (see claim 10). The tube inner diameter does not further define the septum. In addition, Vaillancourt teaches that the septum would permit the insertion of a tube having the claimed inner diameter because the slit is sufficiently large to do so. See col. 2, ll. 58-60.

19. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Frollini, Jr. et al (USP 4,608,148).

20. As discussed in the previous office actions, Frollini teaches a combination glass pH electrode having a hole 50 that would function as a vent for the combination sensor. With respect to that vent minimizing moisture loss or pickup while admitted sufficient air, because these two functions rely on some relative interpretation of what it means to “minimize” moisture pickup and allow for the admittance of “sufficient air” (see 112 rejection above), the unspecified dimensions of the hole of Frollini would meet the claim giving the claim language its broadest reasonable interpretation. The small size of the hole of Frollini would reduce moisture loss or pickup and the hole would clearly be able to allow air flow under vacuum because it allows flow without vacuum. Applicant hasn’t defined the minimization and the admittance in such a

manner that reads free of whatever the dimensions of the hole of Frollini are. In addition, claims 10 and 12 appear to further define this “minimizes” of claim 1 as being a mere reduction or retardation of the moisture loss or pickup (see 112 rejections above). Because the small hole of Frollini would reduce or retard moisture loss or pickup at least to some extent, it would thereby meet the claimed “minimizes” giving the claim language its broadest reasonable interpretation. See also the alternative rejection below.

***Claim Rejections - 35 USC § 103***

21. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
22. Claim 1 in the alternative is rejected under 35 U.S.C. 103(a) as being unpatentable over Frollini in view of Subsara et al (USP 4,543,175) or Marsoner et al (USP 5,160,420). Subsara and Marsoner are being cited and relied on for the first time with this office action.
23. In the previous rejection, the examiner set forth that applicant has not defined the minimization and admittance of sufficient air with enough specificity to read free of the teaching of Frollini by itself. However, even if the examiner were to read claim 1 in a manner that did not read on the hole of Frollini, then the claimed vent system would still be obvious in view of Subsara and Marsoner. In particular, Subsara teaches the use of a sleeve 20 that can slide over the refill opening to permit the opening to be closed. See fig. 2 and col. 2, ll. 10-15. It would have been obvious to one of ordinary skill in the art at the time the invention was being made to utilize the teaching of Subsara for the refill opening and vent of Frollini so that the opening can be sealed so as to prevent electrolyte loss when the electrode is not being operated. Because this

sleeve of Subsara would be capable partially covering the hole (e.g. when the seal is halfway or three-quarters of the way over the hole), the sleeve of Subsara would be capable of providing a level of sealing that would meet the claim limitations in this alternative interpretation. In other words, if the hole of Frollini were interpreted as being too large to meet the claimed vent requirements (interpreted in the alternative), a sleeve like that taught by Subsara would have been capable of partially obscuring that hole until it meant the claim limitation. Although the prior art does not disclose using this sleeve as a partial obscurant, it is unnecessary for the prior art to disclose doing so as long as the prior art were capable of providing the specified function. With respect to Marsoner, Marsoner teaches that reference electrolyte can be delivered to and released from a reference electrode via a series of sealed tubes 21 and 22 so as to automatically refill the reference electrode and prevent contamination of the electrode with sample. See fig. 2, col. 4, ll. 9-14 and col. 5, l. 60 through col. 6, l. 26. It would have been obvious to one of ordinary skill in the art at the time the invention was being made to utilize the teaching of Marsoner for the electrode of Frollini so that reference electrolyte can be automatically delivered and undesirable mixing of sample and electrolyte can be avoided. With respect to the thereby claimed vent, because Marsoner utilizes narrow tubes that are sufficiently long to connect them to a source of reference electrolyte 28 or waste tank 8, they would presumably either meet the claimed vent requirement (note: applicant utilizes tubes only 10 mm long) or tubes of sufficient length to meet the claimed requirement would have been obvious.

24. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vaillancourt in view of Bartam et al (USP 5,143,621).

25. Vaillancourt set forth all the limitations of claim 13, but did not explicitly recite the use of a silicone elastomer for the septum closure. Bartam teaches that silicone is a conventional choice of septum material. See col. 3, ll. 57 and 58 and col. 4, ll. 26 and 27. It would have been obvious to one of ordinary skill in the art at the time the invention was being made to utilize the teaching of Bartam for the septum of Vaillancourt because the use of conventional septum materials requires only routine skill in the art. With respect to the specified durometer values, finding the desired durometer values to provide the desired level of elasticity and sturdiness also requires only routine skill in the art.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kaj Olsen whose telephone number is (571) 272-1344. The examiner can normally be reached on Monday through Thursday from 5:30 A.M. to 3:00 P.M. and on alternate Fridays.

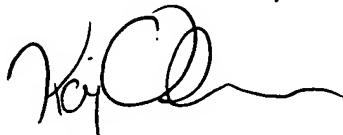
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen, can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

Art Unit: 1753

system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AU 1753  
October 12, 2005



KAJ K. OLSEN  
PRIMARY EXAMINER